



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0395; Project Identifier 2019-NE-11-AD; Amendment 39-21151; AD 2020-13-06]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Canada Corp. Turboprop Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Pratt & Whitney Canada Corp. (P&WC) PW150A model turboprop engines. This AD was prompted by a determination by the manufacturer that certain PW150A engine high-pressure (HP) centrifugal impellers may exhibit a material microstructure anomaly that has a potential to adversely affect the low cycle fatigue characteristics of the part. This AD requires replacement of the affected HP centrifugal impellers. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: <https://www.pwc.ca>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the

availability of this material at the FAA, call 781-238-7759. It is also available on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0395.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0395; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, 20590.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7146; fax: 781-238-7199; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain P&WC PW150A turboprop engines. The NPRM published in the Federal Register on June 24, 2019 (84 FR 29419). The NPRM was prompted by a determination by the manufacturer that certain PW150A engine HP centrifugal impellers may exhibit a material microstructure anomaly that has a potential to adversely affect the low cycle fatigue characteristics of the part. The NPRM proposed to require replacement of the affected HP centrifugal impellers. The FAA is issuing this AD to address the unsafe condition on these products.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued AD CF-2018-12, dated April 27, 2018 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

Pratt & Whitney Canada (P&WC) has determined that certain PW150A engine HP centrifugal impellers, part number (P/N) 3049127-01, may exhibit a material microstructure anomaly which has a potential to adversely affect the low cycle fatigue (LCF) characteristics of the part, resulting in a lower LCF life than currently published in the engine model’s Airworthiness Limitations. The identified discrepancy was related to specific parts having been exposed to inappropriate temperature levels during the manufacturing process.

To address the subject potential material microstructure problem, P&WC issued SB 35331 Initial Issue, dated 16 March 2016, and then subsequently Revision 1, dated 3 May 2016, to recommend replacement of specific impeller serial numbers prior to the parts reaching the determined thresholds. Subsequent to the release of the SB, P&WC voluntarily initiated a fleet campaign to achieve this objective.

The actions specified by this [TCCA] AD are to ensure that HP centrifugal impellers with this potential material anomaly condition are contained in order to prevent severe engine damage and possible aeroplane damage caused by an impeller failure.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0395.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed except for minor editorial changes.

The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed P&WC Service Bulletin (SB) PW150-72-35331, Revision No. 1, dated May 3, 2016. The SB describes procedures for the replacement of the affected HP centrifugal impeller. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 20 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Replace HP centrifugal	100 work-hours X \$85 per hour =	\$201,921	\$210,421	\$4,208,420

impeller	\$8,500			
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Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2020-13-06 **Pratt & Whitney Canada Corp.:** Amendment 39-21151; Docket No. FAA-2019-0395; Project Identifier 2019-NE-11-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Pratt & Whitney Canada Corp. (P&WC) PW150A model turboprop engines with a high-pressure (HP) centrifugal impeller, part number (P/N) 3049127-01, installed.

(d) Subject

Joint Aircraft System Component (JASC) 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by a determination by the manufacturer that certain HP centrifugal impellers installed on P&WC PW150A model turboprop engines may exhibit

a material microstructure anomaly that has a potential to adversely affect the low cycle fatigue characteristics of the part. The FAA is issuing this AD to prevent failure of a certain HP centrifugal impeller. The unsafe condition, if not addressed, could result in uncontained release of the HP centrifugal impeller, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Remove HP centrifugal impeller, P/N 3049127-01, with any serial number (S/N) listed in Table 2 of P&WC Service Bulletin (SB) No. PW150-72-35331, Revision No. 1, dated May 3, 2016, prior to accumulating 8,000 flight cycles since new or within 150 flight cycles after the effective date of this AD, whichever occurs later, and replace with a part eligible for installation.

(h) Installation Prohibition

After the effective date of this AD, do not install an HP centrifugal impeller, P/N 3049127-01, with any S/N listed in Table 1 or 2 of P&WC SB No. PW150-72-35331, Revision No. 1, dated May 3, 2016, onto any engine.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Barbara Caufield, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7146; fax: 781-238-7199; email: barbara.caufield@faa.gov.

(2) Refer to Transport Canada Civil Aviation (TCCA) AD CF-2018-12, dated April 27, 2018, for more information. You may examine the TCCA AD in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0395.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Pratt & Whitney Canada Corp. (P&WC) Service Bulletin PW150-72-35331, Revision No. 1, dated May 3, 2016.

(ii) [Reserved]

(3) For P&WC service information identified in this AD, contact Pratt & Whitney Canada Corp., 1000 Marie-Victorin, Longueuil, Quebec, Canada, J4G 1A1; phone: 800-268-8000; fax: 450-647-2888; Internet: <https://www.pwc.ca>.

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fedreg.legal@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on June 17, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2020-14259 Filed: 7/1/2020 8:45 am; Publication Date: 7/2/2020]